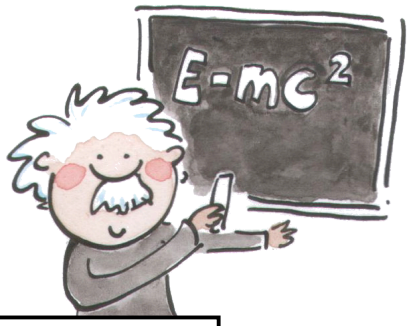
IBDP Physics – Inquiry Extravaganza

Group 4 (Experimental Sciences)



Student Name

Teacher Name

IB students are inquirers! Which other subject lends itself better than the subjects in the experimental sciences? Plan and carry out an investigation of your choice. You will be investigating a natural phenomenon, thus learning more about its physical nature. To help you a bit, you may want to choose one of the investigations below.

Before you start, try to identify all the relevant variables in the experiment, and control those most likely to affect the experiment. Write a short description or method below and submit your plan to your teacher.

For this investigation, a full lab report is required, i.e. assessing Design, Data Collection & Processing and Conclusion & Evaluation.

1. Tearing Paper or card: Investigate the factors required to tear paper or card.
2. Craters in Sand: Investigate the factors related to the crater formed by a falling object.
3. Investigate factors, which affect the (re)bounce of a ball.
4. Investigate simple musical instruments.
5. The efficiency of a Bunsen burner.
6. Factors affecting the flight of a Projectile.
7. Factors affecting evaporation.
8. The Physics of a bow and arrow.
9. Investigate a vibrating ruler.
10. Tie two pendulums together with a piece of string or spring and see what happens.
11. Cooling ability of ice cubes
12. Stickiness of blue tac
13. Refractive index of jelly
14. Investigate catapults
15. Speed of ripples on a liquid
16. Drag on object moving in water
17. Investigate the domino effect with a set of dominoes
18. Factors affecting the distance travelled by water from a drinking fountain (rubber tube)

19. Factors affecting time taken for a submerged object to rise to surface of liquid (in a pool?)
20. Stopping distances on a bicycle.
21. Hole in a bottle/carton: factors affecting the drainage
22. Factors affecting the intensity of a light source
23. Penetration of a dropped object (e.g. a nail)
24. Investigate different factors affecting resistivity of a wire
25. Descent of a parachute
26. Output of a solar cell
27. Terminal velocity in air/fluid
28. Factors affecting the expansion of a balloon
29. Heat transfer from a lamp

or, of course, make up your own investigation!

An interesting website to visit that might give you some great ideas for an investigation is International Young Physicists Tournament site at http://www.iypt.org

Title of Your Investigation

Short Description of Your Investigation (including your variables and your method)

Materials Needed
